

ABSTRACT OF THE DISCLOSURE

The present invention relates to a temperature-sensitive thermogelling emulsion system for bioactive substances, consisting of a biodegradable temperature-sensitive aqueous phase polymer solution, and a 5 pharmaceutically acceptable oil phase carrier, which embeds the bioactive substance. The oil phase carrier and the temperature-sensitive polymer solution are mixed mutually to produce the emulsion, and the emulsion is a liquid while the temperature is below the lower critical solution temperature (LCST) and reversibly transforms into a gel while the temperature is above 10 said lower critical solution temperature. The emulsions are able to offer the controlled release without burst effect and afterward in a near zero order manner, as well as be non-invasively monitored post-implantation. The design of entrapment of the bioactive substances in the oily phase is also beneficial to preserve the bioactivity of the environment-sensitive 15 substances.